

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-45. Cancelled.

46. (previously presented) A process for producing linear alkyl benzene, the process including the steps of obtaining a hydrocarbon condensate containing olefins, paraffins and oxygenates from a low temperature Fischer-Tropsch reaction;

- a) fractionating a desired carbon number distribution from the hydrocarbon condensate to form a fractionated hydrocarbon condensate stream which is the product of a Fischer-Tropsch reaction;
- b) extracting oxygenates from the fractionated hydrocarbon condensate stream from step (a) to form a stream containing olefins and paraffins which is the product of a Fischer-Tropsch reaction;
- c) combining the stream containing olefins and paraffins from step (b), which is the product of a Fischer-Tropsch reaction, with the feed stream from step (g) to form a combined stream;
- d) alkylating olefins in the combined stream from step (c) with benzene in the presence of a suitable alkylation catalyst in an alkylation reactor;
- e) recovering linear alkyl benzene from the alkylation reactor;
- f) recovering unreacted paraffins from the alkylation reactor;
- g) dehydrogenating the unreacted paraffins in the presence of a suitable dehydrogenation catalyst to form a feed stream containing olefins and paraffins; and
- h) sending the feed stream containing olefins and paraffins from step (g) to step (c).

47. (previously presented) A process according to claim 46, wherein, in the extraction step b), the ratio of olefins to paraffins is substantially preserved.
48. (previously presented) A process according to claim 46, wherein the low temperature Fischer-Tropsch reaction is carried in a slurry bed reactor at a temperature of 160°C - 280°C and in the presence of a cobalt catalyst to provide a hydrocarbon condensate containing 60 to 80% by weight paraffins and 10 to 30% by weight olefins.
49. (previously presented) The process according to claim 48, wherein the Fischer-Tropsch reaction is carried out at a temperature of 210°C - 260°C.
50. (previously presented) The process according to claim 46, wherein the Fischer-Tropsch reaction is carried out in the presence of a cobalt catalyst.
51. (previously presented) The process according to claim 48, wherein the hydrocarbon condensate contains 10 to less than 25% by weight olefins.
52. (previously presented) The process according to claim 48, wherein the olefins in the hydrocarbon condensate have a linearity of greater than 92%.
53. (previously presented) The process according to claim 52, wherein the olefins in the hydrocarbon condensate have a linearity of greater than 95%.
54. (previously presented) The process according to claim 48, wherein the paraffins in the hydrocarbon condensate have a linearity greater than 92%.
55. (previously presented) The process according to claim 46, wherein the hydrocarbon condensate is fractionated, in step a), into the C₈ to C₁₆ range.
56. (previously presented) The process according to claim 55, wherein the hydrocarbon condensate product is fractionated, in step a), into the C₁₀ to C₁₃ range.

57. (previously presented) The process according to claim 56, wherein the fractionated hydrocarbon product contains 10 to 30% by weight olefins with a degree of linearity greater than 92%.
58. (previously presented) The process according to claim 46, wherein the oxygenates are extracted, in step (b), by distillation, dehydration or liquid-liquid extraction.
59. (previously presented) The process according to claim 58, wherein the oxygenates are extracted by liquid-liquid extraction.
60. (previously presented) The process according to claim 59, wherein a light solvent is used in the liquid-liquid extraction.
61. (previously presented) The process according to claim 60, wherein the light solvent is a mixture of methanol and water.
62. (previously presented) The process according to claim 61, wherein the oxygenate extraction process is a liquid-liquid extraction process that takes place in an extraction column using a mixture of methanol and water as the solvent, wherein an extract from the liquid-liquid extraction is sent to a solvent recovery column from which a tops product comprising methanol, olefins and paraffins is recycled to the extraction column, thereby enhancing the overall recovery of olefins and paraffins.
63. (previously presented) The process according to claim 62, wherein a bottoms product from the solvent recovery column is recycled to the extraction column.
64. (previously presented) The process according to claim 61, wherein the solvent has a water content of more than 3% by weight.

65. (previously presented) The process according to claim 64, wherein the solvent has a water content of from 5% - 15% by weight.
66. (previously presented) The process according to claim 62, wherein a raffinate from the extraction column is sent to a stripper column from which a hydrocarbon feed stream containing more than 90% by weight olefins and paraffins and less than 0.2% by weight oxygenates exits as a bottoms product.
67. (previously presented) The process according to claim 66, wherein the hydrocarbon feed stream contains less than 0.02% by weight oxygenates.
68. (previously presented) The process according to claim 46, wherein the recovery of olefins and paraffins in the hydrocarbon feed stream over the extraction step b) is in excess of 70%.
69. (previously presented) The process according to claim 68, wherein the recovery of olefins and paraffins in the hydrocarbon feed stream is in excess of 80%.
70. (previously presented) The process according to claim 46, wherein the olefin/paraffin ratio of the fractionated hydrocarbon condensate stream a) is substantially preserved over the extraction step b).
71. (previously presented) The process according to claim 46, wherein the dehydrogenation reaction at step (g) is carried out at a conversion rate of 10%-15%.
72. (previously presented) The process according claim 71, wherein the fractionated hydrocarbon condensate from step (b) has an olefin concentration of from 10% to 30% by weight, the feed stream from step (g) has an olefin concentration of 10% to 15% by weight, and the combined stream at step (c) has an olefin concentration of 12.5% to 22.5% by weight.